

central, and annular on the meridian. It will also be visible and very great at the southern extremity of the Islands of Holland, Van Dieman's Land, and New Zealand. This will be a very singular and remarkable eclipse, the Moon's south umbra will not reach the earth, and the penumbra crossing the southern part of it, will eclipse partially and visibly nearly the whole of the south frigid zone; the southern extremity of the penumbra passing by in expansum a few leagues from the pole. In Long. 36° W. of London, in this zone, the eclipse will assume a curious and unusual appearance; progressing after the commencement with the utmost rapidity, and attaining in a very short time, the magnitude of 7 or 8 digits; it will then pass off with equal velocity, the motion of places in this longitude, and the motion of the penumbra being in opposite directions. The eclipse at all these places, will begin on the Sun's eastern limb, and end on his western; a phenomenon that never takes place in the torrid or temperate zones.

III. The third will be of the Moon, on Monday, July 1st. partial and partly visible: the going off of the earth's shadow may be perceived at the moon's rising.

Beginning.....6h.47m. }

S's upper limb rises with 9 } 7 33
digits eclipsed..... }

Lower limb rises.....7 36

Ecliptic opposition... ..8 19

Middle.....8 55

End.....10 13

} Apparent, or
solar time in
the morning.

Digits eclipsed $10^{\circ} 18'$ on the moon's southern limb in the north side of the earth's shadow.

IV. The 4th will be of the Sun, on Wednesday, July 17th at about $2\frac{1}{2}$ o'clock in the morning; a grand and total eclipse; but on account of the moon's high latitude, and as the sun will then be below the horizon, it will not be visible in the provinces, but in the northern part of Europe and Asia, it will be visible, central, and total. The moon's shadow will first strike the earth at sunrise in Hudson's Bay, or Davis' Strait, near the island of Disco; thence, travelling eastward, at the rate of about 30 miles a minute, over the southern part of Greenland and Iceland into the Atlantic Ocean; and crossing the Atlantic Ocean; the Shetland and Ferro Islands, and the northern part of Great Britain; it will enter Norway and Sweden; traversing there, the Gulf of Bothnia, Finland, and the Southern part of Lapland, the White Sea, Russia in Europe, and the southern part of Nova-Zembla, and passing the Ural mountains into Siberia, as far as the Gulf and river Obi, it will leave the earth near the city of Tobolsk at the setting of the sun. At London, a few minutes before 6 o'clock in the morning, about 9 digits will be eclipsed; and at Paris, a few minutes after 6, about 8 digits will be eclipsed. The northern part of the penumbra will extend beyond the North pole, eclipsing nearly the whole of the north frigid zone,